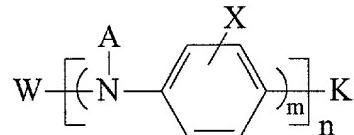


WHAT IS CLAIMED IS:

1. A method of inhibiting the growth of tumor cells in a tumor site of a subject, comprising administering to the tumor site an effective amount of an oligoaniline having the following formula:



5

wherein

m is an integer of 1-6;

n is an integer of 1-10;

each A is $-\text{H}$, $-\text{Z}$, $-\text{CH}_2\text{-CO-OH}$, $-\text{CH}_2\text{-CO-O-Z}$, $-\text{CH}_2\text{-CO-S-Z}$, $-\text{CH}_2\text{-CO-NH}_2$, or $-\text{CH}_2\text{-CO-NH-Z}$; and each X is $-\text{H}$, $-\text{O-Z}$, $-\text{S-Z}$, $-\text{NH-Z}$; Z being $-\text{E-D}$, wherein E is $-\text{R}$, $-\text{R-Ar}$, $-\text{Ar-R}$, or $-\text{Ar-}$; and D is $-\text{OH}$, $-\text{SH}$, $-\text{NH}_2$, $-\text{NHOH}$, $-\text{SO}_3\text{H}$, $-\text{OSO}_3\text{H}$, $-\text{CO}_2\text{H}$, $-\text{CONH}_2$, $-\text{CH}(\text{NH}_2)\text{-CO}_2\text{H}$, $-\text{P}(\text{OH})_3$, $-\text{PO}(\text{OH})_2$, $-\text{O-PO}(\text{OH})_2$, $-\text{O-PO(OH)-O-PO(OH)}_2$, $-\text{O-PO(O-)-O-CH}_2\text{CH}_2\text{NH}_3^+$, $-\text{glycoside}$, $-\text{OCH}_3$, $-\text{OCH}_2(\text{CHOH})_4\text{-CH}_2\text{OH}$, $-\text{OCH}_2(\text{CHOH})_2\text{-CH}_2\text{OH}$, $-\text{C}_6\text{H}_3(\text{OH})_2$, $-\text{NH}_3^+$, $-\text{N}^+\text{H}_2\text{R}_b$, $-\text{N}^+\text{HR}_b\text{R}_c$, or $-\text{N}^+\text{R}_b\text{R}_c\text{R}_d$, each of R , R_b , R_c , and R_d , independently, being C_{1-30} alkyl; and Ar being aryl;

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W is $-\text{H}$, $-\text{CO-B}$, $-\text{CH}_2\text{CH}(\text{OH})\text{-B}$, $-\text{CO-NH-B}$, $-\text{CS-NH-B}$, $-\text{CO-O-B}$, $\text{CO-CH}_2\text{-CH}(\text{CO}_2\text{H})\text{-B}$, $-\text{CH}_2\text{-B}$, $-\text{SO}_2\text{-B}$, wherein B is $-\text{R}_1\text{-O-}[\text{Si}(\text{CH}_3)_2\text{-O-}]_{1-100}$, C_{1-2000} alkyl, C_{6-40} aryl, C_{7-60} alkylaryl, C_{7-60} arylalkyl, $(\text{C}_{1-30} \text{ alkyl ether})_{1-100}$, $(\text{C}_{6-40} \text{ aryl ether})_{1-100}$, $(\text{C}_{7-60} \text{ alkylaryl ether})_{1-100}$, $(\text{C}_{7-60} \text{ arylalkyl ether})_{1-100}$, $(\text{C}_{1-30} \text{ alkyl thioether})_{1-100}$, $(\text{C}_{6-40} \text{ aryl thioether})_{1-100}$, $(\text{C}_{7-60} \text{ alkylaryl thioether})_{1-100}$, $(\text{C}_{7-60} \text{ arylalkyl thioether})_{1-100}$, $(\text{C}_{2-50} \text{ alkyl ester})_{1-100}$, $(\text{C}_{7-60} \text{ aryl ester})_{1-100}$, $(\text{C}_{8-70} \text{ alkylaryl ester})_{1-100}$, $(\text{C}_{8-70} \text{ arylalkyl ester})_{1-100}$, $-\text{R}_1\text{-CO-O-(C}_{1-30} \text{ alkyl ether})_{1-100}$, $-\text{R}_1\text{-CO-O-(C}_{6-40} \text{ aryl ether})_{1-100}$, $-\text{R}_1\text{-CO-O-(C}_{7-60} \text{ alkylaryl ether})_{1-100}$, $-\text{R}_1\text{-CO-O-(C}_{7-60} \text{ arylalkyl ether})_{1-100}$, $(\text{C}_{4-50} \text{ alkyl urethane})_{1-100}$, $(\text{C}_{14-60} \text{ aryl urethane})_{1-100}$, $(\text{C}_{10-80} \text{ alkylaryl urethane})_{1-100}$, $(\text{C}_{10-80} \text{ arylalkyl urethane})_{1-100}$, $(\text{C}_{5-50} \text{ alkyl urea})_{1-100}$, $(\text{C}_{14-60} \text{ aryl urea})_{1-100}$, $(\text{C}_{10-80} \text{ alkylaryl urea})_{1-100}$, $(\text{C}_{10-80} \text{ arylalkyl urea})_{1-100}$, $(\text{C}_{2-50} \text{ alkyl amide})_{1-100}$, $(\text{C}_{7-60} \text{ aryl amide})_{1-100}$, $(\text{C}_{8-70} \text{ alkylaryl amide})_{1-100}$, $(\text{C}_{8-70} \text{ arylalkyl amide})_{1-100}$, $(\text{C}_{3-30} \text{ alkyl anhydride})_{1-100}$, $(\text{C}_{8-50} \text{ aryl anhydride})_{1-100}$, $(\text{C}_{9-60}$

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alkylaryl anhydride)₁₋₁₀₀, (C₉₋₆₀ arylalkyl anhydride)₁₋₁₀₀, (C₂₋₃₀ alkyl carbonate)₁₋₁₀₀, (C₇₋₅₀ aryl carbonate)₁₋₁₀₀, (C₈₋₆₀ alkylaryl carbonate)₁₋₁₀₀, (C₈₋₆₀ arylalkyl carbonate)₁₋₁₀₀, -R₁-O-CO-NH-(R₂ or Ar-R₂-Ar)-NH-CO-O-(C₁₋₃₀ alkyl ether, C₆₋₄₀ aryl ether, C₇₋₆₀ alkylaryl ether, or C₇₋₆₀ arylalkyl ether)₁₋₁₀₀, -R₁-O-CO-NH-(R₂ or Ar-R₂-Ar)-NH-CO-O-(C₂₋₅₀ alkyl ester, C₇₋₆₀ aryl ester, C₈₋₇₀ alkylaryl ester, or C₈₋₇₀ arylalkyl ester)₁₋₁₀₀, -R₁-O-CO-NH-(R₂ or Ar-R₂-Ar)-NH-CO-O-(C₁₋₃₀ alkyl ether, C₆₋₄₀ aryl ether, C₇₋₆₀ alkylaryl ether, or C₇₋₆₀ arylalkyl ether)₁₋₁₀₀-CO-NH-(R₂ or Ar-R₂-Ar)-NH-CO-O-, -R₁-O-CO-NH-(R₂ or Ar-R₂-Ar)-NH-CO-O-(C₂₋₅₀ alkyl ester, C₇₋₆₀ aryl ester, C₈₋₇₀ alkylaryl ester, or C₈₋₇₀ arylalkyl ester)₁₋₁₀₀-R₃-O-CO-NH-(R₂ or Ar-R₂-Ar)-NH-CO-O-, -R₁-NH-CO-NH-(R₂ or Ar-R₂-Ar)-NH-CO-O-(C₁₋₃₀ alkyl ether, C₆₋₄₀ aryl ether, C₇₋₆₀ alkylaryl ether, or C₇₋₆₀ arylalkyl ether)₁₋₁₀₀, -R₁-NH-CO-NH-(R₂ or Ar-R₂-Ar)-NH-CO-(C₂₋₅₀ alkyl ester, C₇₋₆₀ aryl ester, C₈₋₇₀ alkylaryl ester, or C₈₋₇₀ arylalkyl ester)₁₋₁₀₀-CO-NH-(R₂ or Ar-R₂-Ar)-NH-CO-O-, -R₁-NH-CO-NH-(R₂ or Ar-R₂-Ar)-NH-CO-O-(C₁₋₃₀ alkyl ether, C₆₋₄₀ aryl ether, C₇₋₆₀ alkylaryl ether, or C₇₋₆₀ arylalkyl ether)₁₋₁₀₀-CO-NH-(R₂ or Ar-R₂-Ar)-NH-CO-O-, -R₁-NH-CO-NH-(R₂ or Ar-R₂-Ar)-NH-CO-O-(C₂₋₅₀ alkyl ester, C₇₋₆₀ aryl ester, C₈₋₇₀ alkylaryl ester, or C₈₋₇₀ arylalkyl ester)₁₋₁₀₀-R₃O-CO-NH-(R₂ or Ar-R₂-Ar)-NH-CO-O-, -R₁-O-CO-NH-(R₂ or Ar-R₂-Ar)-NH-CO-NH-(C₂₋₅₀ alkyl amide, C₇₋₆₀ aryl amide, C₈₋₇₀ alkylaryl amide, or C₈₋₇₀ arylalkyl amide)₁₋₁₀₀, or -R₁-NH-CO-NH-(R₂ or Ar-R₂-Ar)-NH-CO-NH-(C₂₋₅₀ alkyl amide, C₇₋₆₀ aryl amide, C₈₋₇₀ alkylaryl amide, or C₈₋₇₀ arylalkyl amide)₁₋₁₀₀; wherein each of R₁, R₂, and R₃, independently, is C₁₋₃₀ alkyl; and Ar is aryl;
K is -H, -[N(X)-C₆H₄]₁₋₃-NH₂, -[N(X)-C₆H₄]₁₋₃-NH-C(=S)-SH, -[N(X)-C₆H₄]₁₋₃-N=CH-Ar-SH, or -[N(X)-C₆H₄]₁₋₃-NH-CO-Ar-SH, wherein X is -H, -Z, -CH₂-CO-OH, -CH₂-CO-O-Z, -CH₂-CO-S-Z, -CH₂-CO-NH₂ or -CH₂-CO-NH-Z; and Ar is aryl;
and subsequently exposing the tumor site to irradiation.

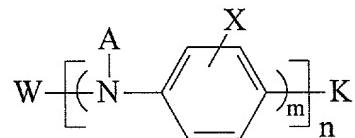
25

2. The method of claim 1, wherein A is -Z, -CH₂-CO-O-Z, -CH₂-CO-S-Z, or -CH₂-CO-NH-Z; wherein E is -R- or -R-Ar-; and D is -OH, -SH, -NH₂, -NHOH, -SO₃H, -OSO₃H, -CO₂H, -CONH₂, -CH(NH₂)-CO₂H, -P(OH)₃, -PO(OH)₂, -O-PO(OH)₂, -O-PO(OH)-O-PO(OH)₂, or -NH₃⁺.
- 30 3. The method of claim 1, wherein m is an integer of 2-6.

4. The method of claim 1, wherein n is an integer of 1-6.
5. The method of claim 2, wherein A is -Z, Z being -E-D, wherein E is -R-, or -R-Ar-; and
5 D is -OH, -SH, -NH₂, -NHOH, -SO₃H, -OSO₃H, -CO₂H, -CONH₂, -P(OH)₃, -PO(OH)₂,
-O-PO(OH)₂, -O-PO(OH)-O-PO(OH)₂, or -NH₃⁺.
6. The method of claim 2, wherein n is an integer of 1-6.
- 10 7. The method of claim 2, wherein m is an integer of 2-6.
8. The method of claim 6, wherein m is an integer of 2-6.
- 15 9. The method of claim 5, wherein E is -R-; and D is -SO₃H, -OSO₃H, -CO₂H, -O-PO(OH)₂,
or -O-PO(OH)-O-PO(OH)₂.
10. The method of claim 5, wherein m is an integer of 2-6.
- 20 11. The method of claim 5, wherein n is an integer of 1-6.
12. The method of claim 9, wherein E is -C₃H₆-; D is -SO₃H; n is an integer of 1-6; and m is
an integer of 2-6.
13. The method of claim 12, wherein m is 4.
- 25 14. The method of claim 13, wherein each of W, X, and K is H.
15. The method of claim 3, wherein m is 4.
- 30 16. The method of claim 3, wherein n is an integer of 1-6.

17. The method of claim 15, wherein n is an integer of 1-6.

18. A pharmaceutical composition for inhibiting the growth of tumor cells, comprising a compound of the following formula:



5

wherein

m is an integer of 1-6;

n is an integer of 1-10;

each A is -H, -Z, -CH₂-CO-OH, -CH₂-CO-O-Z, -CH₂-CO-S-Z, -CH₂-CO-NH₂, or

10 -CH₂-CO-NH-Z; and each X is -H, -O-Z, -S-Z, -NH-Z; Z being -E-D, wherein E is -R-, -R-Ar-, -Ar-R-, or -Ar-; and D is -OH, -SH, -NH₂, -NHOH, -SO₃H, -OSO₃H, -CO₂H, -CONH₂, -CH(NH₂)-CO₂H, -P(OH)₃, -PO(OH)₂, -O-PO(OH)₂, -O-PO(OH)-O-PO(OH)₂, -O-PO(O⁻)-O-CH₂CH₂NH₃⁺, -glycoside, -OCH₃, -OCH₂(CHOH)₄-CH₂OH, -OCH₂(CHOH)₂-CH₂OH, -C₆H₅(OH)₂, -NH₃⁺, -N⁺H₂R_b, -N⁺HR_bR_c, or -N⁺R_bR_cR_d, each of R, R_b, R_c, and R_d, independently, being C₁₋₃₀ alkyl; and Ar being aryl;

15 W is -H, -CO-B, -CH₂CH(OH)-B, -CO-NH-B, -CS-NH-B, -CO-O-B, CO-CH₂-CH(CO₂H)-B, -CH₂-B, -SO₂-B, wherein B is -R₁-O-[Si(CH₃)₂-O-]₁₋₁₀₀, C₁₋₂₀₀₀ alkyl, C₆₋₄₀ aryl, C₇₋₆₀ alkylaryl, C₇₋₆₀ arylalkyl, (C₁₋₃₀ alkyl ether)₁₋₁₀₀, (C₆₋₄₀ aryl ether)₁₋₁₀₀, (C₇₋₆₀ alkylaryl ether)₁₋₁₀₀, (C₇₋₆₀ arylalkyl ether)₁₋₁₀₀, (C₁₋₃₀ alkyl thioether)₁₋₁₀₀, (C₆₋₄₀ aryl thioether)₁₋₁₀₀, (C₇₋₆₀ alkylaryl thioether)₁₋₁₀₀, (C₇₋₆₀ arylalkyl thioether)₁₋₁₀₀, (C₂₋₅₀ alkyl ester)₁₋₁₀₀, (C₇₋₆₀ aryl ester)₁₋₁₀₀, (C₈₋₇₀ alkylaryl ester)₁₋₁₀₀, (C₈₋₇₀ arylalkyl ester)₁₋₁₀₀, -R₁-CO-O-(C₁₋₃₀ alkyl ether)₁₋₁₀₀, -R₁-CO-O-(C₆₋₄₀ aryl ether)₁₋₁₀₀, -R₁-CO-O-(C₇₋₆₀ alkylaryl ether)₁₋₁₀₀, -R₁-CO-O-(C₇₋₆₀ arylalkyl ether)₁₋₁₀₀, (C₄₋₅₀ alkyl urethane)₁₋₁₀₀, (C₁₄₋₆₀ aryl urethane)₁₋₁₀₀, (C₁₀₋₈₀ alkylaryl urethane)₁₋₁₀₀, (C₁₀₋₈₀ arylalkyl urethane)₁₋₁₀₀, (C₅₋₅₀ alkyl urea)₁₋₁₀₀, (C₁₄₋₆₀ aryl urea)₁₋₁₀₀, (C₁₀₋₈₀ alkylaryl urea)₁₋₁₀₀, (C₁₀₋₈₀ arylalkyl urea)₁₋₁₀₀, (C₂₋₅₀ alkyl amide)₁₋₁₀₀, (C₇₋₆₀ aryl amide)₁₋₁₀₀, (C₈₋₇₀ alkylaryl amide)₁₋₁₀₀, (C₈₋₇₀ arylalkyl amide)₁₋₁₀₀, (C₃₋₃₀ alkyl anhydride)₁₋₁₀₀, (C₈₋₅₀ aryl anhydride)₁₋₁₀₀, (C₉₋₆₀ alkylaryl anhydride)₁₋₁₀₀, (C₉₋₆₀ arylalkyl anhydride)₁₋₁₀₀, (C₂₋₃₀ alkyl carbonate)₁₋₁₀₀, (C₇₋₅₀ aryl

carbonate)₁₋₁₀₀, (C₈₋₆₀ alkylaryl carbonate)₁₋₁₀₀, (C₈₋₆₀ arylalkyl carbonate)₁₋₁₀₀, -R₁-O-CO-NH-(R₂ or Ar-R₂-Ar)-NH-CO-O-(C₁₋₃₀ alkyl ether, C₆₋₄₀ aryl ether, C₇₋₆₀ alkylaryl ether, or C₇₋₆₀ arylalkyl ether)₁₋₁₀₀, -R₁-O-CO-NH-(R₂ or Ar-R₂-Ar)-NH-CO-O-(C₂₋₅₀ alkyl ester, C₇₋₆₀ aryl ester, C₈₋₇₀ alkylaryl ester, or C₈₋₇₀ arylalkyl ester)₁₋₁₀₀, -R₁-O-CO-NH-(R₂ or Ar-R₂-Ar)-NH-CO-O-(C₁₋₃₀ alkyl ether, C₆₋₄₀ aryl ether, C₇₋₆₀ alkylaryl ether, or C₇₋₆₀ arylalkyl ether)₁₋₁₀₀-CO-NH-(R₂ or Ar-R₂-Ar)-NH-CO-O-, -R₁-O-CO-NH-(R₂ or Ar-R₂-Ar)-NH-CO-O-(C₂₋₅₀ alkyl ester, C₇₋₆₀ aryl ester, C₈₋₇₀ alkylaryl ester, or C₈₋₇₀ arylalkyl ester)₁₋₁₀₀-R₃-O-CO-NH-(R₂ or Ar-R₂-Ar)-NH-CO-O-, -R₁-NH-CO-NH-(R₂ or Ar-R₂-Ar)-NH-CO-O-(C₁₋₃₀ alkyl ether, C₆₋₄₀ aryl ether, C₇₋₆₀ alkylaryl ether, or C₇₋₆₀ arylalkyl ether)₁₋₁₀₀, -R₁-NH-CO-NH-(R₂ or Ar-R₂-Ar)-NH-CO-(C₂₋₅₀ alkyl ester, C₇₋₆₀ aryl ester, C₈₋₇₀ alkylaryl ester, or C₈₋₇₀ arylalkyl ester)₁₋₁₀₀, -R₁-NH-CO-NH-(R₂ or Ar-R₂-Ar)-NH-CO-O-(C₁₋₃₀ alkyl ether, C₆₋₄₀ aryl ether, C₇₋₆₀ alkylaryl ether, or C₇₋₆₀ arylalkyl ether)₁₋₁₀₀-CO-NH-(R₂ or Ar-R₂-Ar)-NH-CO-O-, -R₁-NH-CO-NH-(R₂ or Ar-R₂-Ar)-NH-CO-O-(C₂₋₅₀ alkyl ester, C₇₋₆₀ aryl ester, C₈₋₇₀ alkylaryl ester, or C₈₋₇₀ arylalkyl ester)₁₋₁₀₀-R₃O-CO-NH-(R₂ or Ar-R₂-Ar)-NH-CO-O-, -R₁-O-CO-NH-(R₂ or Ar-R₂-Ar)-NH-CO-NH-(C₂₋₅₀ alkyl amide, C₇₋₆₀ aryl amide, C₈₋₇₀ alkylaryl amide, or C₈₋₇₀ arylalkyl amide)₁₋₁₀₀, or -R₁-NH-CO-NH-(R₂ or Ar-R₂-Ar)-NH-CO-NH-(C₂₋₅₀ alkyl amide, C₇₋₆₀ aryl amide, C₈₋₇₀ alkylaryl amide, or C₈₋₇₀ arylalkyl amide)₁₋₁₀₀; wherein each of R₁, R₂, and R₃, independently, is C₁₋₃₀ alkyl; and Ar is aryl;

K is -H, -[N(X)-C₆H₄]₁₋₃-NH₂, -[N(X)-C₆H₄]₁₋₃-NH-C(=S)-SH, -[N(X)-C₆H₄]₁₋₃-N=CH-Ar-SH, or -[N(X)-C₆H₄]₁₋₃-NH-CO-Ar-SH, wherein X is -H, -Z, -CH₂-CO-OH, -CH₂-CO-O-Z, -CH₂-CO-S-Z, -CH₂-CO-NH₂ or -CH₂-CO-NH-Z; and Ar is aryl; and a pharmaceutically acceptable carrier

25 19. The pharmaceutical composition of claim 18, wherein A is -Z, -CH₂-CO-O-Z, -CH₂-CO-S-Z, or -CH₂-CO-NH-Z; E is -R- or -R-Ar-; and D is -OH, -SH, -NH₂, -NHOH, -SO₃H, -OSO₃H, -CO₂H, -CONH₂, -CH(NH₂)-CO₂H, -P(OH)₃, -PO(OH)₂, -O-PO(OH)₂, -O-PO(OH)-O-PO(OH)₂, or -NH₃⁺.

20. The pharmaceutical composition of claim 19, wherein A is -Z; E is -R-; and D is -SO₃H,
-OSO₃H, -CO₂H, -CH(NH₂)-CO₂H, -P(OH)₃, -PO(OH)₂, -O-PO(OH)₂, or -O-PO(OH)-O-
PO(OH)₂.
- 5 21. The pharmaceutical composition of claim 20, wherein E is -C₃H₆-; D is -SO₃H; n is an
integer of 1-6; m is an integer of 2-6; and each of W, X, and K is H.

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